STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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Morin Brick Company
Androscoggin County
Auburn, Maine
A-209-71-F-R (SM)

Departmental
Findings of Fact and Order
Air Emission License

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Morin Brick Company (MBC) located in Auburn, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their brick manufacturing facility.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Process Equipment

Equipment	Maximum Process Rate	Pollution Control Equipment	Stack #
Brick Kiln	15.0 MMBtu/hr 7.0 ton/hr	dry limestone adsorber	1
Brick Dryer	2.0 MMBtu/hr 8.25 ton/hr	none	2
Batch Dryer	1.4 MMBtu/hr 12.5 ton/hr	none	3 & 4

C. Application Classification

The application for MBC does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 24, 2005). With the facility production limit MBC is licensed below the major source thresholds and is considered a synthetic minor.

II. BEST PRACTICAL TREATMENT (BPT)

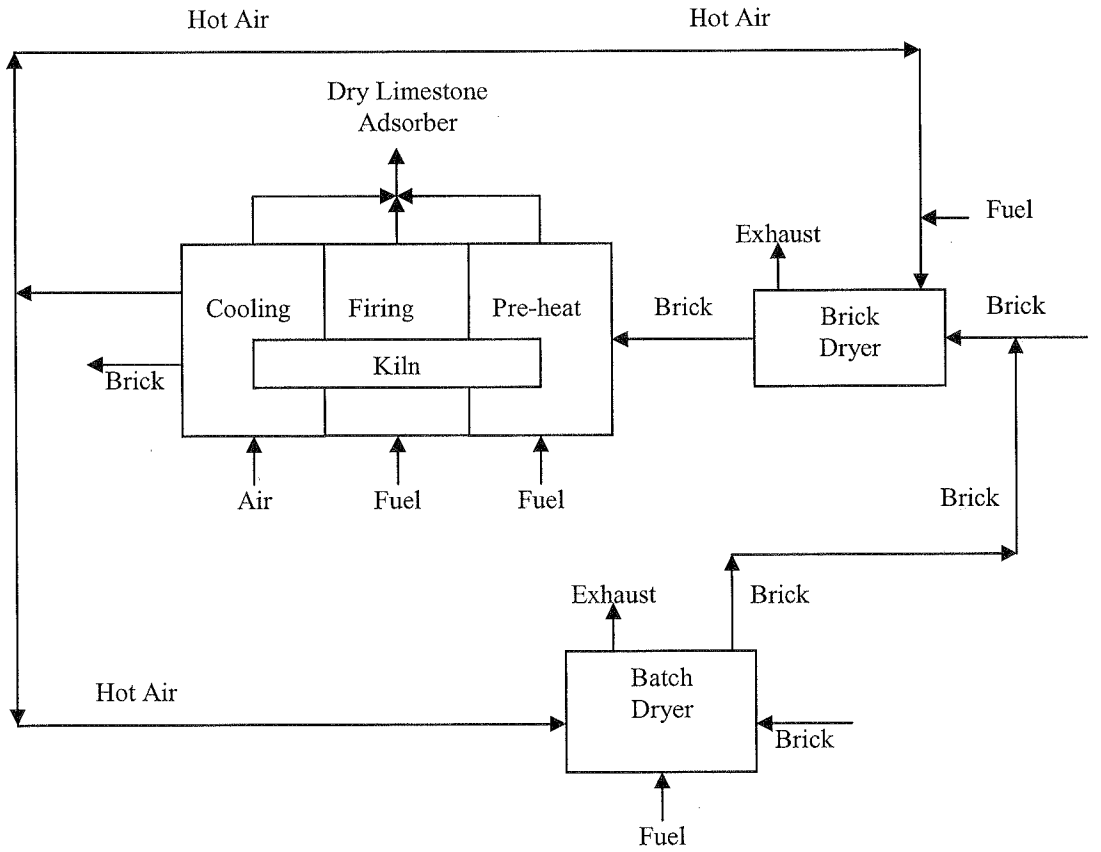
A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Process Diagram



C. Brick Kiln

The brick kiln was manufactured by Lingl Corporation in 1979 and subsequently modified in 2004. It is equipped with 92 burners with a total combined maximum firing rate of 15.0 MMBtu/hr firing natural gas or propane. The maximum hourly production rate is 7.0 ton/hr, with an annual production limit of 61,320 tons.

In August 2002, clay and fired brick samples from MBC were sent to the National Brick Research Center in South Carolina for analysis. The analyses showed that the percent chlorides in every sample from both before and after the kiln were below detection limits. Therefore, HCl emissions from the kiln are assumed to be insignificant.

For control of hydrogen fluoride (HF) emissions from the kiln, MBC utilizes a dry limestone adsorber. This equipment is described in more detail below.

D. Dry Limestone Adsorber

A previous BACT analysis determined that the use of a dry limestone adsorber (DLA) with an emission limit of 0.84 lb/hr of HF and 3.5 lb/hr of PM represents BACT for the brick kiln.

The DLA system operation begins with the gases entering a large inlet manifold that lowers the air speeds and directs the gases to numerous reaction sections. The gases then pass through a reactor section filled with granular limestone. The acidic gases are adsorbed when they come into contact with the limestone surfaces. The exhaust gases then pass to an outlet manifold where they are collected and ducted to the exhaust fan and stack.

E. Brick Dryer

The brick dryer was manufactured by Lingl Corporation in 1979 and modified in 2004. The green brick process rate input to the dryer is 18,975 lb/hr, and the dried brick output is 16,500 lb/hr. The brick dryer has a auxiliary burner to boost the temperature of the air being vented to the dryer from the cooling zone of the kiln. The auxiliary burner has a maximum heat input capacity of 2.0 MMBtu/hr and fires natural gas or propane.

Distillate or waste oil is used as a lubricant during extrusion of the brick column through the dies. This oil is assumed to be volatilized in the brick dryer. MBC is licensed to use 2,500 gal/year for this purpose.

F. Batch Dryer

The batch dryer was manufactured by Pixley Ceriv in 1987 and is equipped with one Multifire III burner. The burner was manufactured by Maxon Burner Corporation with a maximum design heat input capacity of 1.4 MMBtu/hr. The batch dryer fires natural gas or propane. The molded brick process rate input to the dryer is 25,000 lb/hr and molded brick output rate is approximately 25,000 lb/hr.

Emissions limits for criteria pollutants from the Batch Dryer are based on AP-42 data for "Bricks and Related Clay Products" (Section 11.3) for a natural gas fired kiln.

G. Annual Emissions

MBC shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM_{10}	SO_2	NO_x	CO	VOC	HF
Kiln	15.3	15.3	20.5	10.7	36.8	0.7	3.7
Extrusion Vaporization	--	--	--	--	--	8.8	--
Brick Drying	5.7	5.7	0.4	3.0	9.5	0.9	--
Total TPY	**21.0**	**21.0**	**20.9**	**13.7**	**46.3**	**10.4**	**3.7**

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

Pollutant	Tons/Year
PM	25
PM_{10}	25
SO_2	50
NO_x	100
CO	250

Based on the total facility licensed emissions MBC is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-209-71-F-R subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
2. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such

monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) Brick Kiln

A. The Brick Kiln shall be limited to the firing of propane and natural gas only. [06-096 CMR 115, BPT]

B. Emissions from the Brick Kiln shall not exceed the following limits:

Pollutant	lb/hr	Origin and Authority
PM	3.5	06-096 CMR 115, BPT
PM_{10}	3.5	06-096 CMR 115, BPT
SO_2	4.7	06-096 CMR 115, BPT
NO_X	2.5	06-096 CMR 115, BPT
CO	8.4	06-096 CMR 115, BPT
VOC	0.2	06-096 CMR 115, BPT
HF	0.84	06-096 CMR 115, BPT

C. Compliance with the lb/hr limits listed in Condition (16)(C) above shall be demonstrated by stack testing upon request by the Department. [06-096 CMR 115, BPT]

D. MBC shall operate the Brick Kiln such that the visible emissions from the kiln do not exceed 20% opacity on a six (6) minute block average basis, for more than one (1) six (6) minute block average in a 1-hour period. Compliance shall be demonstrated by stack testing, upon request by the Department, in accordance with 40 CFR Part 60, Appendix A, Method 9, or other method approved by the Department. [06-096 CMR 101]

E. MBC shall maintain monthly records of brick additives (including manganese dioxide) indicating amount of additive purchased and weight percent HAP. [06-096 CMR 115, BPT]

(17) Process Limit

MBC shall not exceed an annual (12-month rolling total) brick production limit of 61,320 tons per year. Morin Brick Company shall maintain records of monthly brick throughput. [06-096 CMR 115, BPT]

(18) **Brick Dryer**

A. MBC shall operate the Brick Dryer such that the visible emissions from the Brick Dryer do not exceed an opacity of 10% on a six (6) minute block average basis, for more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 115, BPT]

B. VOC emissions from the brick dryer shall not exceed 2.0 lb/hr. [06-096 CMR 115, BPT]

C. Compliance with the VOC lb/hr limit shall be demonstrated by stack testing upon request by the Department. [06-096 CMR 115, BPT]

(19) **Batch Dryer**

A. Emissions from the batch dryer shall not exceed the following limits:

Pollutant	lb/hr	Origin and Authority
PM	3.0	06-096 CMR 115, BPT
PM_{10}	3.0	06-096 CMR 115, BPT
SO_2	0.1	06-096 CMR 115, BPT
NOx	0.69	06-096 CMR 115, BPT
CO	2.17	06-096 CMR 115, BPT
VOC	0.21	06-096 CMR 115, BPT

B. Compliance with the lb/hr limits listed in Condition (19)(A) above shall be demonstrated by stack testing upon request by the Department. [06-096 CMR 115, BPT]

C. MBC shall operate the Batch Dryer such that the visible emissions from the dryer do not exceed an opacity of 20% on a six (6) minute block average basis, for more than one (1) six (6) minute block average in a 1-hour period. Compliance shall be demonstrated by stack testing, upon request by the Department, in accordance with 40 CFR Part 60, Appendix A, Method 9, or other method approved by the Department. [06-096 CMR 101]

(20) **Facility Wide Fuel Use**

A. For the fuel oil utilized as a lubricant during the extrusion of the brick column through the dies, MBC shall not exceed an annual distillate oil (including #2 fuel oil and specification waste oil) use cap of 2,500 gallons per year (12-month rolling total) demonstrated by purchase records from the supplier. [06-096 CMR 115, BPT]

B. The sulfur content of the distillate fuel used as a lubricant during extrusion shall not exceed 0.5% by weight demonstrated by purchase records from the supplier. [06-096 CMR 115, BPT]

C. MBC shall keep monthly records of the amount of each fuel fired at the facility. [06-096 CMR 115, BPT]

(21) **Fugitive Emissions**

A. Potential sources of fugitive PM emissions including material stockpiles, paved, and unpaved roadways shall be controlled when appropriate by wetting with water, with calcium chloride, or other methods as approved by the Department to prevent visible emissions in exceed of 20% opacity, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any 1-hour. [06-096 CMR 101]

B. When visible emissions from the clay pile exceed 10% opacity, MBC shall wet the storage pile to reduce fugitive particulate matter emissions. [06-096 CMR 115, BPT]

(22) **Dry Limestone Adsorber**

A. MBC shall operate the Dry Limestone Adsorber (DLA) whenever the Brick Kiln is in operation. [06-096 CMR 115, BPT]

B. MBC shall continuously monitor and record once per shift the DLA inlet temperature and pressure drop. MBC shall keep records of monthly limestone usage. [06-096 CMR 115, BPT]

(23) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (last amended November 8, 2008), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

1) A computer program and accompanying instructions supplied by the Department; or
2) A written emission statement containing the information required in 06-096 CMR 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017 Phone: (207) 287-2437

The emission statement must be submitted as specified by the date in 06-096 CMR 137.

(24) MBC shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 24th DAY OF March , 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brooks
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/12/08
Date of application acceptance: 11/14/08

Date filed with the Board of Environmental Protection:

FILED
MAR 26 2009
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

This Order prepared by Lynn Ross, Bureau of Air Quality.